AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of obtaining a spatially representative, isokinetic, sample of fluid flowing through a duct, the method comprising:

providing a sample probe having a plurality of inlet ports in the duct without respective flow controllers coupled to each of the inlet ports for controlling fluid flow therethrough;

controlling a back pressure within the sample probe so that the back pressure within the sample probe at each inlet port is the same and so that the back pressure within the sample probe is equal to a static pressure of an outlet portion of the duct; and

receiving ~~a~~ an isokinetic sample portion of the fluid into the plurality of inlet ports so that mass flow of the sample portion of fluid received into each of the inlet ports without respective flow controllers is respectively representative of local mass flow of the fluid at each of the inlet ports.

2. (canceled)

3. (original) A method of claim 1 wherein the back pressure within the sample probe is controlled by venting the sample probe to atmosphere.

4. (original) A method of claim 1 wherein the back pressure within the sample probe is controlled using a pressure regulator fluidly connected to the sample probe.

5. (canceled)

6. (original) A method of claim 1 wherein the sample probe is vented to an opening in a wall of an outlet portion of the duct.

7. (original) A method of claim 1 wherein a cross sectional area of the sample probe is at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

8. (original) A method of claim 1 further comprising drawing a sample slip stream of the fluid received by the inlet ports through an opening in the sample probe without substantially changing the back pressure in the sample probe.

9. (original) A method of claim 1 wherein controlling the back pressure within the sample probe comprises minimizing the back pressure so that local duct pressure at each inlet port drives the sample portion of the fluid into the inlet ports.

10. (canceled)

11. (currently amended) A method of obtaining an isokinetic sample of fluid flowing through a duct, the method comprising:

providing a sample probe having a plurality of inlet ports in the duct without respective flow controllers coupled to each of the inlet ports for controlling fluid flow therethrough;

controlling a back pressure within the sample probe so that the back pressure and variations of the back pressure within the sample probe are minimized and so that the back pressure within the sample probe is equal to a static pressure of an outlet portion of the duct; and

receiving an isokinetic sample of the fluid into the plurality of inlet ports so that mass flow of the fluid received into each of the inlet ports without respective flow controllers is respectively equal to local mass flow of the fluid in the duct at each of the inlet ports.

12. (canceled)

13. (original) A method of claim 11 wherein the back pressure within the sample probe is controlled by venting the sample probe to atmosphere.

14. (original) A method of claim 11 wherein the back pressure within the sample probe is controlled using a pressure regulator connected to the sample probe.

15. (canceled)

16. (original) A method of claim 11 wherein the sample probe is vented to an opening in a wall of an outlet portion of the duct.

17. (original) A method of claim 11 wherein a cross sectional area of the sample probe is at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

18. (original) A method of claim 11 further comprising drawing a sample slip stream of the fluid received by the inlet ports through an opening in

the sample probe without substantially changing the back pressure in the sample probe.

19. (currently amended) A system for obtaining a spatially representative, isokinetic, sample of fluid flowing through a duct, the system comprising:

a sample probe having a plurality of inlet ports in the duct without respective flow controllers coupled to each of the inlet ports for controlling fluid flow therethrough, a back pressure within the sample probe being controlled so that the back pressure within the sample probe at each inlet port is the same and so that the back pressure within the sample probe is equal to a static pressure of an outlet portion of the duct, and ~~a~~ an isokinetic sample portion of the fluid being received into the plurality of inlet ports so that mass flow of the sample portion of fluid received into each of the inlet ports without respective flow controllers is respectively representative of local mass flow of the fluid at each of the inlet ports.

20. (canceled)

21. (original) A system of claim 19 wherein the back pressure within the sample probe is controlled by venting the sample probe to atmosphere.

22. (original) A system of claim 19 further comprising a pressure regulator for controlling the back pressure within the sample probe, the pressure regulator being fluidly connected to the sample probe.

23. (canceled)

24. (original) A system of claim 19 wherein the sample probe is vented to an opening in a wall of an outlet portion of the duct.

25. (original) A system of claim 19 wherein a cross sectional area of the sample probe is at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

26. (original) A system of claim 19 wherein a sample slip stream of the fluid received by the inlet ports is drawn through an opening in the sample probe without substantially changing the back pressure in the sample probe.

27. (original) A system of claim 19 wherein controlling the back pressure within the sample probe comprises minimizing the back pressure so that local duct pressure at each inlet port drives the sample portion of the fluid into the inlet ports.

28. (canceled)

29. (currently amended) A system of obtaining an isokinetic sample of fluid flowing through a duct, the system comprising:

a sample probe having a plurality of inlet ports in the duct without respective flow controllers coupled to each of the inlet ports for controlling fluid flow therethrough, a back pressure within the sample probe being controlled so that the back pressure and variations of the back pressure within the sample probe are minimized and so that the back pressure within the sample probe is equal to a static pressure of an outlet portion of the duct, and an isokinetic sample of the fluid being received into the plurality of inlet ports so that mass flow of the fluid received into each of the inlet ports without respective flow controllers is respectively equal to local mass flow of the fluid in the duct at each of the inlet ports.

30. (canceled)

31. (original) A system of claim 29 wherein the back pressure within the sample probe is controlled by venting the sample probe to atmosphere.

32. (original) A system of claim 29 further comprising a pressure regulator for controlling the back pressure within the sample probe, the pressure regulator being connected to the sample probe.

33. (canceled)

34. (original) A system of claim 29 wherein the sample probe is vented to an opening in a wall of an outlet portion of the duct.

35. (original) A system of claim 29 wherein a cross sectional area of the sample probe is at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

36. (original) A system of claim 29 wherein a sample slip stream of the fluid received by the inlet ports is drawn through an opening in the sample probe without substantially changing the back pressure in the sample probe.

37. (currently amended) A system for obtaining a spatially representative, isokinetic, sample of fluid flowing through a duct, the system comprising:

means for sampling fluid in the duct, the means for sampling fluid having a plurality of inlet ports for receiving a sample portion of the fluid without respective flow controllers coupled to each of the inlet ports for controlling fluid flow therethrough so that mass flow of the sample portion of fluid received into each of the inlet ports without respective flow controllers is respectively representative of local mass flow of the fluid at each of the inlet ports; and

means for controlling a back pressure within the means for sampling so that the back pressure within the means for sampling at each inlet port is the same and so that the back pressure within the means for sampling is equal to a static pressure of an outlet portion of the duct.

38. (canceled)

39. (original) A system of claim 37 wherein the means for controlling the back pressure controls the back pressure within the means for sampling by venting the means for sampling to atmosphere.

40. (original) A system of claim 37 wherein the means for controlling back pressure includes a pressure regulator which is fluidly connected to the means for sampling.

41. (canceled)

42. (original) A system of claim 37 wherein the means for sampling is vented to an opening in a wall of an outlet portion of the duct.

43. (original) A system of claim 37 wherein a cross sectional area of the means for sampling is at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

44. (original) A system of claim 37 wherein a sample slip stream of the fluid received by the inlet ports is drawn through an opening in the means for sampling without substantially changing the back pressure in the means for sampling.

45. (original) A system of claim 37 wherein controlling the back pressure within the means for sampling by the means for controlling comprises minimizing the back pressure so that local duct pressure at each inlet port drives the sample portion of the fluid into the inlet ports.

46. (canceled)

47. (currently amended) A system obtaining an isokinetic sample of fluid flowing through a duct, the system comprising:

means for sampling fluid in the duct, the means for sampling having a plurality of inlet ports without respective flow controllers coupled to each of the inlet ports for controlling fluid flow therethrough, the inlet ports ~~for~~ receiving an isokinetic sample of the fluid so that mass flow of the fluid received into each of the inlet ports is respectively equal to local mass flow of the fluid in the duct at each of the inlet ports; and

means for controlling a back pressure within the means for sampling so that the back pressure and variations of the back pressure within the means for sampling are minimized and so that the back pressure within the means for sampling is equal to a static pressure of an outlet portion of the duct.

48. (canceled)

49. (original) A system of claim 47 wherein the means for controlling the back pressure controls the back pressure by venting the means for sampling to atmosphere.

50. (original) A system of claim 47 wherein the means for controlling the back pressure includes a pressure regulator which is connected to the means for sampling.

51. (canceled)

52. (original) A system of claim 47 wherein the means for sampling is vented to an opening in a wall of an outlet portion of the duct.

53. (original) A system of claim 47 wherein a cross sectional area of the means for sampling is at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

54. (original) A system of claim 47 wherein a sample slip stream of the fluid received by the inlet ports is drawn through an opening in the means for sampling without substantially changing the back pressure in the means for sampling.